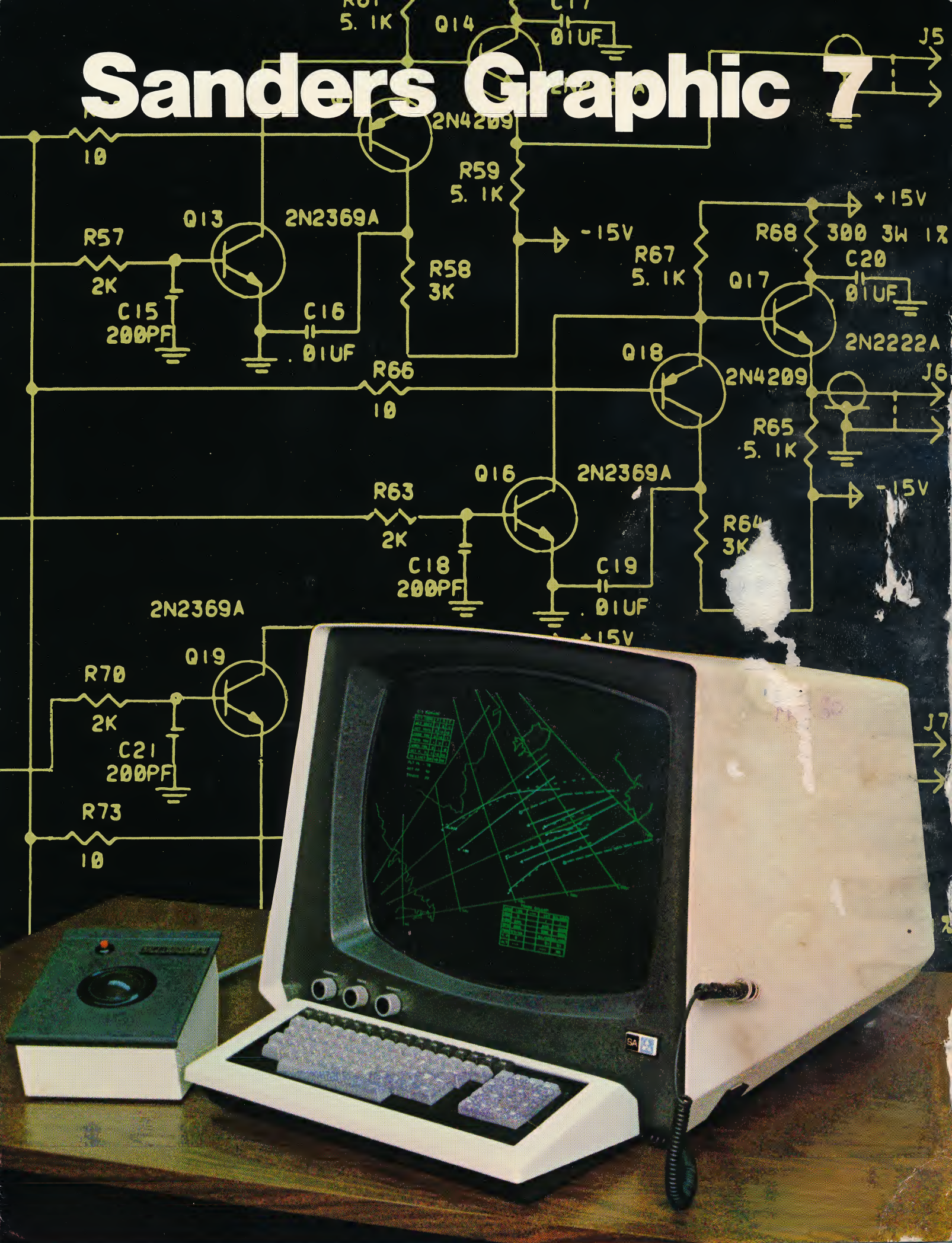


Sanders Graphic 7



Sanders

NEW, ADVANCED CAPABILITIES

The Sanders Graphic 7 — an intelligent, refreshed terminal system — brings significant new capabilities to the processing and display of graphic data. Consider these high-performance Graphic 7 features:

- Full interactive, distributed processing capability
- Standard interfaces to most host computers
- Complete graphics support software
- Two programmable microprocessors
- Self-contained refresh buffer
- Self-test and diagnostic routines

To minimize demands on host computer time, many of the tasks that normally require host attention are handled in the Graphic 7. The Graphic 7 does not depend on program loading from the host computer, although down-loading may be utilized to augment system capabilities. With two programmable microprocessors and self-contained firmware, the Graphic 7 assures the user of maximum flexibility.

A VERSATILE GRAPHICS TOOL

Sharp display images with high data load capacity, and compatibility with a variety of input-output devices are basic Graphic 7 features. With graphics processing and display functions controlled internally, the Graphic 7 is an extremely versatile and efficient tool for a broad range of interactive and distributed processing applications.

Specific applications for which the Graphic 7 is ideally suited include . . .

- Computer-aided design
- Simulation & training
- Command & control
- Computer-aided manufacturing
- Air traffic control
- Data reduction and analysis
- Process control
- Mapping applications

OPERATION OF THE GRAPHIC 7 IS SIMPLE, EASY TO LEARN

The Graphic 7 was designed to make system operation trouble-free and foolproof. Operator training is minimal. Applications programming is greatly simplified by the system's Graphic Control Program and Graphic Support Software.

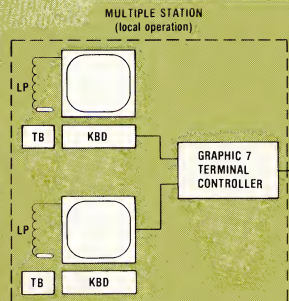
System Mode Operation

Initialized by the operator with a single front-panel button, or by the host computer. Program control resides in the host, which can enable Graphic 7 terminals to perform preprogrammed functions.

Local Mode Operation

Initialized by the operator, who can perform system verification and test functions. The operator can call data from memory, deposit new data, and transfer program control to a memory address.

HOST
COMPUTER



The basic Graphic 7 System terminal and a terminal controller are connected to output devices selected to meet requirements. The Graphic 7 can be connected locally or remotely to any host computer via RS232C serial interface or, if response times are critical, a dedicated interface. As many as four independent terminals can be operated simultaneously by a single



Graphic 7

THE GRAPHIC 7 IS A COMPLETE SYSTEM, READY TO PLUG IN AND GO TO WORK

The Graphic 7 is completely preprogrammed and ready to interface to any computer equipped with a standard communications or I/O port. The system's terminal controller includes two microprocessors, up to 128K bytes of read-write memory, up to 16K bytes of read-only memory for firmware, analog function generators, serial and parallel interface.

Display Microprocessor

The display microprocessor is contained on a single printed circuit card. It has the architecture of a full 16 bit minicomputer, with over 400 instructions, eight addressing modes, priority level interrupts, and unique trap vectors for each peripheral device. The display microprocessor controls system initialization, interface handling, local data editing, and refresh functions.

Graphic Microprocessor

A special microprocessor that retrieves, interprets, and acts on display instructions from the refresh memory for generation of the image on the screen. Like the display microprocessor, the graphic controller is housed in the terminal controller.

Software/Firmware

The Graphic 7 System has three levels of software/firmware:

The Graphic Control Program, located in ROM, handles the operation of the Graphic 7.

The GSS-4, a series of FORTRAN subroutines which allow the operator to easily generate graphic images.

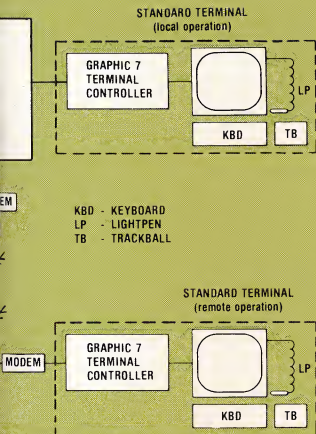
Application programs, which may be down-loaded from the host into the system's read-write memory.

Display Devices

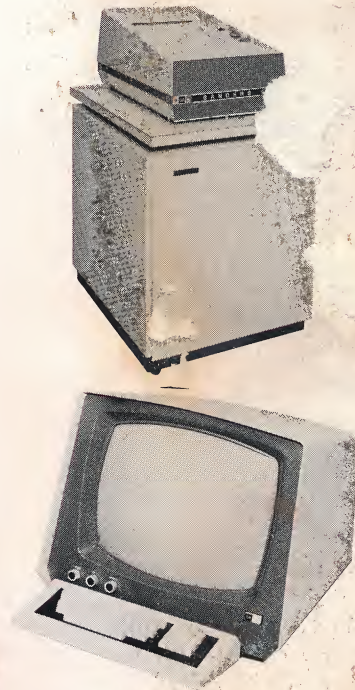
Graphic 7 display devices include a 21" diagonal desk-top CRT, a 21" rack-mounted CRT, and a 23" round desk-top CRT. A hard copy unit provides high quality copies of the display image.

Data Entry Devices

Principle data entry devices include a full ASCII keyboard and a Teletype type keyboard, both with 16 control and 16 function keys; the Sanders lightpen, and a trackball and forcestick for control of the cursor.



consists of a single CRT
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can be connected directly
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hen data load and re-
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displays can be driven
ntroller.





SANDERS ASSOCIATES, INC. **INFORMATION PRODUCTS DIVISION**

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(603) 885-5280

Sanders Associates, Inc., enjoys a world-wide reputation for the design and production of sophisticated electronic systems. Sanders' graphic display systems are included in the DC-10 Flight Checkout System, JETS Air Traffic Control System, Saturn V Pre-Launch System and in the Flight Simulator for the Space Shuttle. Since the mid-1960's, Sanders' innovations in the field of computer graphics have resulted in high-performance graphic display systems such as the SA 500, SA 900, Graphic 5 and Graphic 7. Today Sanders is an important supplier of graphic terminals and terminal systems to both commercial and government users.

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